

# FUTURE TRENDS IN **NUCLEAR PHYSICS COMPUTING**

## Welcome Session

# Organizers



**Alexander Kiselev**



**Amber Boehnlein**



**Graham Heyes**



**Mark Ito**



**Markus Diefenthaler**



**Ofer Rind**



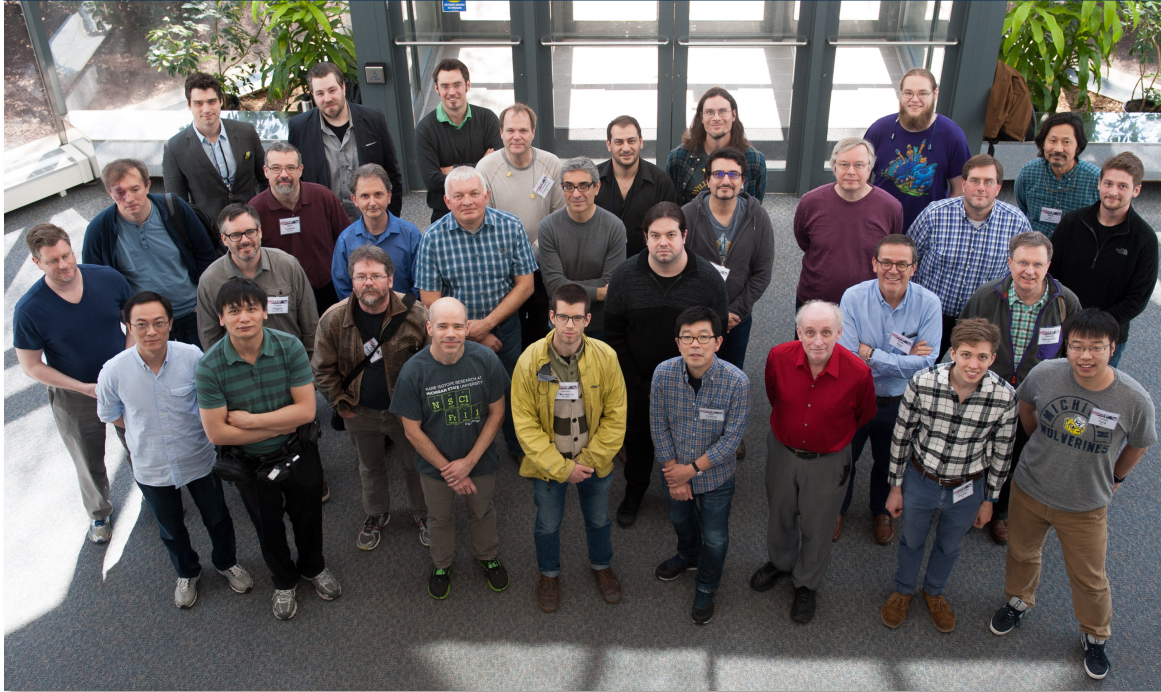
**Paul Laycock**



**Torre Wenaus**



## Future Trends in Nuclear Physics Computing in 2016



### Goals

- Examined computing strategy at a time horizon of ten years
- Defined common vision for NP computing
- Recommended future directions for development

### Website

- <https://www.jlab.org/conferences/trends2016/>

## Future Trends in Nuclear Physics Computing in 2017



### Goals

- Discussed trends in scientific computing
- Collected ideas on how to improve analysis
- Worked towards next-generation analysis techniques and tools

### Website

- <https://www.jlab.org/conferences/trends2017/>



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## FUTURE TRENDS IN NUCLEAR PHYSICS COMPUTING

SEPT. 29 - OCT. 1, 2020

The workshop focuses on the Nuclear Physics Software & Computing community. We will identify what is unique about our community and we will discuss how we can strengthen common efforts and chart a path for Software & Computing in Nuclear Physics for the next ten years.

### TOPICS:

- Common Scientific Software
- The Role of Data Centers in Scientific Discovery
- Unique Software Challenges for Nuclear Physics

- Focus on the **Nuclear Physics Software & Computing community**
- Identify what is unique about our community
- Discuss how we could strengthen common efforts
- Chart a path for **Nuclear Physics Software & Computing** for the next ten years



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### TOPICS:

- Common Scientific Software
- The Role of Data Centers in Scientific Discovery
- Unique Software Challenges for Nuclear Physics

- We meet for four hours each day in a time window chosen to be as inclusive as possible for participants around the world:

**9:00 a.m. – 1:00 p.m. (EDT)**

- Substantial discussion time is included in the agenda.

### Common Scientific Software

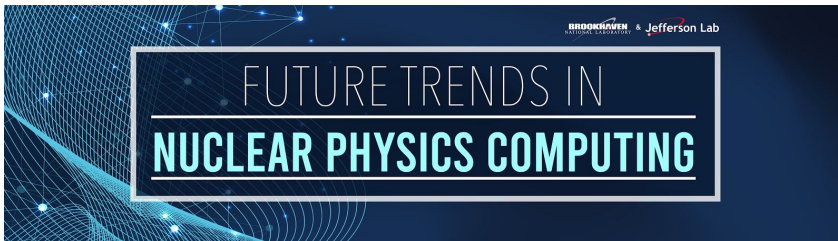
- Tuesday, September 29
- **Moderated by** P. Laycock and T. Wenaus

### The Role of Data Centers in Scientific Discovery

- Wednesday, September 30
- **Moderated by** G. Heyes and O. Rind

### Unique Software Challenges for Nuclear Physics

- Thursday, October 1
- **Moderated by** M. Diefenthaler, M. Ito, and A. Kiselev



## Future Trends in Nuclear Physics Computing Meeting Notes

[Timetable](#)

This is the live meeting notes document for the [Future Trends in Nuclear Physics Computing Workshop](#) held on September 29 - October 1, 2020. This workshop, the third of the series (previous editions were in [2017](#) and [2016](#)), focuses on the Nuclear Physics Software & Computing community itself. Goals for the workshop are to identify what is unique about our community, find ways to strengthen common efforts, and chart a path for Software & Computing in Nuclear Physics for the next ten years.

We meet for four hours each day in a time window chosen to be as inclusive as possible for participants around the world. Substantial discussion time is included in the agenda, and session conveners will keep speakers to time in order to preserve the discussion time. This google doc will be used in advance to give the discussions structure and focus, as well as during the workshop itself to moderate and record the discussion and gather input from all participants, and after the workshop as the basis for summarizing and report writing. Editing is on, and all participants are encouraged to contribute in all phases.

Each day has a theme. In advance of the workshop, questions and discussion points for each day will be gathered here to guide a moderated common discussion following the talks. A short discussion period will follow each talk to address questions specific to the talk. The content prepared in advance will be augmented during the presentations and discussions.

A brief synopsis of the previous day will be part of an intro talk on days two and three.

The workshop will conclude with a short summary, but summarizing and report writing proper will proceed after the workshop. All participants are welcome and encouraged to join the meeting organizers in this work. The outcome will be a written report, with presentation and discussion of the report in the subsequent meeting of the "Software & Computing Round Table" that is jointly organized

Please contribute to the **live notes** during the meeting:

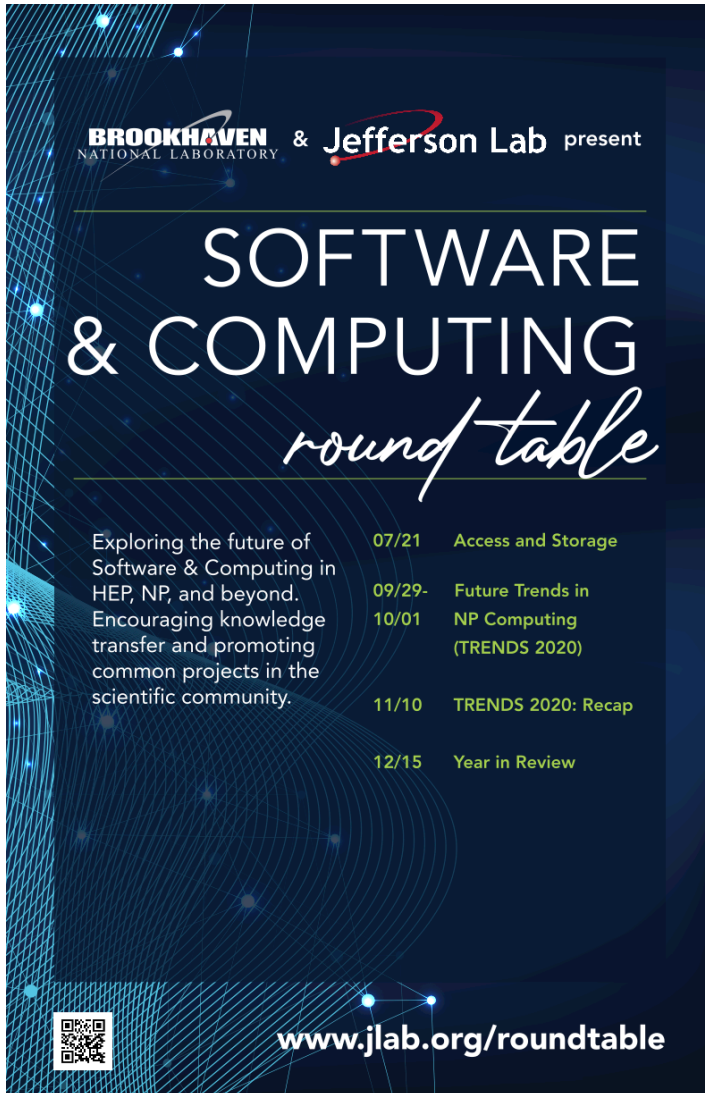
- [https://docs.google.com/document/d/1mug\\_UB31WngFvvILv8CFRBd4dSdKZR0iROL3m3IFY5Y/edit](https://docs.google.com/document/d/1mug_UB31WngFvvILv8CFRBd4dSdKZR0iROL3m3IFY5Y/edit)
- Editing is on.

### Scope

- The **live notes** will be used to moderate and record the discussion and gather input from all participants, and after the workshop as the basis for summarizing and report writing.
- Questions and discussion points will be gathered in the **live notes** to guide a moderated common discussion following the talks.
- There will be time for short questions after each talk.



# Workshop Summary and Report




The poster features a dark blue background with a glowing blue grid pattern. At the top left, the logos for Brookhaven National Laboratory and Jefferson Lab are displayed. The main title 'SOFTWARE & COMPUTING' is in large white capital letters, with 'round table' in a white script font below it. A descriptive paragraph on the left explains the purpose of the round table. A table on the right lists the topics and dates. At the bottom left is a QR code, and at the bottom center is the website URL.

**BROOKHAVEN** & **Jefferson Lab** present  
NATIONAL LABORATORY

## SOFTWARE & COMPUTING *round table*

Exploring the future of Software & Computing in HEP, NP, and beyond. Encouraging knowledge transfer and promoting common projects in the scientific community.

07/21	Access and Storage
09/29-10/01	Future Trends in NP Computing (TRENDS 2020)
11/10	TRENDS 2020: Recap
12/15	Year in Review

 [www.jlab.org/roundtable](http://www.jlab.org/roundtable)

- The workshop will conclude with a short summary.
- **After workshop** Summarizing of discussion:
  - [https://docs.google.com/document/d/1mug\\_UB31WngFvvlLv8CFRBd4dSdKZR0iROL3m3lFY5Y/edit](https://docs.google.com/document/d/1mug_UB31WngFvvlLv8CFRBd4dSdKZR0iROL3m3lFY5Y/edit)
  - The outcome will be a **written report**.

**You are welcome and encouraged to join in this work.**

- **Presentation of written report** and discussion:
  - Software & Computing Round Table
  - **Tuesday, November 10**
  - 11:00 a.m. - 12:30 p.m. (EDT)
  - Details: <https://www.jlab.org/indico/event/356/>